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AUTHOR Segalla, Angelo
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ABSTRACT

Since 1968, an increasing number of California community colleges have participated in the Presidents' Study, a study of Weekly Student Contact Hours (WSCH) and Full-Time Equivalent Faculty (FTE) to determine faculty work loads, cost factors, and trends. In 1973, 41 Northern and 26 Southern California community colleges reported. Golden West College began participating in 1974. This report compares the data obtained at Golden West in fall 1974 with that obtained for the entire state, and with averages for small and large community colleges, in fall 1973. Data on WSCH, percent WSCH, FTE, percent FTE, and load and cost indexes are presented by college division and by instructional disciplines within the eight divisions: business, communications, fine arts, health sciences, physical education, mathematics/science, social science, and technology. The methodology of the Presidents' Study is criticized for its oversimplified equation of faculty load with WSCH, a measurement less meaningful for institutions committed to nontraditional programs and methods. (BB)

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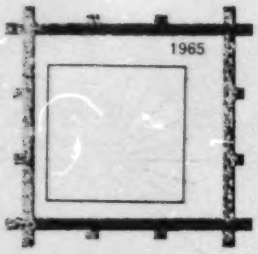

GOLDEN WEST COLLEGE
15744 GOLDEN WEST STREET • HUNTINGTON BEACH • CALIFORNIA 92647
(714) 892-7711

IMPLICATIONS OF THE PRESIDENTS' STUDY FOR GOLDEN WEST COLLEGE

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ANGELO SEGALLA
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Angelo Segalla

PREFACE

When statistics is used to model a real-life situation, certain (usually very restrictive) assumptions need to be made to quantify circumstances. Then, further assumptions are made in treating the data statistically. Thus, in his effort to analyze a situation, the statistician hinders it by simplification. This trade-off is unfortunate but ever present, especially in behavioral science studies. The results yielded by any statistical model, including this study, must be viewed with an eye toward the underlying assumptions. Approached with these cautions, the data displayed here can be both informative and useful.

INTRODUCTION

The Presidents' Study was initiated by two community college educators, Manfred E. Mueller and Herbert H. Semans.* The study is a collection, classification, and analysis of weekly contact hours and full-time equivalent faculty, treated by various formulas, ratios, and graphs to indicate loads, costs, and trends for a number of community colleges in California.

Reaction to the study from community college educators has ranged from total acceptance and full participation to severe criticism and reluctant or no participation. Foothill College and the Community College of San Francisco, centers for the gathering and compiling of this type of data, seem to have embraced the study. Other schools, including the Coast Community College District, have criticized the study on several counts: lack of standardization in collecting data; arbitrariness of faculty load figures--a vital statistic in determining load factors; and the numerous non-traditional approaches to learning--all factors

*Both are now retired but have maintained an active role in the study through "Semans-Mueller Associates," a research firm specializing in community colleges.

crucial to conducting meaningful statistical analyses. Richard W. Brightman, Associate Dean of Instruction at Orange Coast College, recorded his opinion of Coast's participation in this study:

> Close examination of past issues of the report (Presidents' Study) reveals remarkable variation in data which will inevitably be used by college administrators and, heaven forbid, government officials to compare the relative work loads of faculty and enrollment activity in various CID classifications among community colleges.
>
> I'll cite just one of many horrible examples from the Fall, 1972, issue of the report. The faculty load figures for Music History and Appreciation range from 230 at Lassen to 2,375 at Santa Rosa. You'll have to talk pretty fast to convince me that data which vary to that extent are providing information of any usefulness in comparing colleges, programs, or anything else.
>
> Such comparisons must lead to conclusions that are as wishy-washy and useless as the data reported. Nevertheless, the comparisons will be made, much to the detriment, in my opinion, of colleges and programs which by sheer chance show data that are at variance with most of the rest.
>
> I recommend most strongly that we discontinue our participation in this project.

William Shawl, Golden West's Dean of Academic Affairs, vigorously attacked the study at a recent California Community Junior College Association convention. Shawl further elaborates:

> The problem with this study is that it equates load with weekly student contact hours. Contact hours is only one part of an instructor's load. Depending upon discipline and learning strategy involved, much more should be considered in comparing load. Paraprofessional assistance is not considered, for example, in making comparisons. This is not a faculty load study and should not be labeled as such. I fear the kinds of comparisons which might be drawn from such a study by those who consider only the numbers game.

The extent of criticism seems to be directly proportional to the amount of non-traditional (innovative) commitment on the part of the institution. This is understandable. Non-traditional programs do not fit the traditional mold and are, therefore, hard to pin down by methods of analysis that oversimplify the situation.

Since 1968, an increasing number of Northern California community colleges have participated in the Presidents' Study. In Southern California, participation began in 1972. In 1973, 41 Northern and 26 Southern California community colleges reported (see Appendix 1 for a complete list of participating colleges). The Coast Community College District began participating in 1974. Note carefully that all data reported here for GWC and OCC are for Fall, 1974; state data, however, are for Fall, 1973.

The present report leans heavily on the methods and results of the statewide Presidents' Study. But this temporary adoption of analytic procedures and methods of reporting results is not the type of research planned for GWC; many of the procedures in the statewide study are not acceptable and will be deleted and replaced with more appropriate ones. Longitudinal data will also be collected as time progresses in order to show trends in weekly student contact hours, full-time equivalents, enrollment in courses and division, and rapidity of closing enrollments.

PART I

The analysis begins with a look at the data by classification of instructional discipline (CID). In Part II, the data will be cross-referenced and presented by division. This part will give the reader an overall picture. Part II will present a finer-grained analysis.

Table 1 displays, by general CID category of the disciplines at Golden West College, the weekly student contact hours (WSCH), full-time equivalent faculty (FTE), the equivalent percents, and the load factor (WSCH/FTE as defined in the 1973-74 Presidents' Study). Note that the CID categories do not correspond to "familiar" names. For example, in Table 1, communications is defined as journalism and radio/television broadcasting, whereas communications at GWC embraces more than a dozen disciplines. Appendix 2 contains a more detailed clasification of disciplines by CID number (yet, not totally specific; e.g., "0410--Physiology, Human, Animal; Anatomy"). This form was used to report GWC data to Foothill College, data gathering center for the Presidents' Study.

Percent FTE is not displayed in Appendix 2 but can be calculated easily by dividing each FTE by 167.40, the computed total full-time

equivalent faculty assigned to day college.* For example, %FTE for CID #502 is 4.25/167.4 = 2.54 (i.e., 2.54%). The total (except load) for hundreds CID categories appear at the top of each hundreds section and correspond with the totals in Table 1. Note the loads are not summarized. Loads are ratios--summing them would be meaningless.

Table 1

Weekly student contact hours, full-time equivalents, respective percents, and loads of hundred CID categories at Golden West College

CID #	DISCIPLINE	WSCH	%WSCH	FTE	%FTE	LOAD
0200	Architecture & Environ. Design	1,271	1.26	1.63	0.96	780
0400	Biological Sciences	7,580	7.53	8.95	5.34	847
0500	Business and Management	9,442	9.38	15.91	9.50	593
0600	Communications	628	0.62	2.63	1.56	239
0700	Computer Sciences	162	0.16	.19	0.10	853
0800	Educations	10,671	10.60	14.35	8.56	744
0900	Engineering	3,525	3.50	6.02	3.60	586
1000	Fine & Applied Arts	9,880	9.82	16.72	9.96	591
1100	Foreign Language	1,548	1.54	3.90	2.32	397
1200	Health Professions	7,085	7.04	23.80	14.21	298
1500	Letters	11,088	1.01	23.09	13.78	480
1600	Library Science	122	.12	.31	.18	394
1700	Mathematics	5,841	5.80	9.24	5.51	632
1900	Physical Science	5,491	5.45	6.47	3.86	849
2000	Psychology	6,931	6.88	6.38	3.81	1,086
2100	Public Affairs & Services	2,836	2.82	5.25	3.13	540
2200	Social Science	11,557	11.48	17.81	10.63	649
3000	Commercial Services	4,825	4.79	4.65	2.77	1,038
4900	Interdisciplinary Studies	162	0.16	.20	0.13	810
6000	Unclassified, Misc.	36	0.04	0.13	0.09	277
	Totals (except load)	100,681	100.00	167.40	100.00	601

*Actual and computed FTE are slightly different. Actual FTE = 167.90 as reported by the Dean of Academic Affairs. Computed FTE = 167.40 is the sum of a multitude of fractional FTE's, based on faculty assignments and the faculty load policy outlined in the Faculty Manual, page B-20.

Table 2 and Figure 1 present GWC's load factor parallel* with that of OCC, the District (CCCD), and the state large and small college averages. Note that mutually exclusive disciplines are included in the summary making across the board comparisons inappropriate.

For example, under CID #200, Golden West data reports only Architectural Technology (#0230), while Orange Coast reports Architectural Technology (#0230) and General Environmental Design (#0201). Other colleges may report combinations of these two and yet a different discipline: Architecture (#0202), all under CID #200.

This data is meant only to present an overall picture of the two colleges and the District for Fall, 1974, and state averages for Fall, 1973.** Table 3, however, displays the data in a more comparable form. If comparisons are made at all, they should be based on the data in Table 3 and Figure 2, for then one compares common disciplines. But note that even here not all variables are controlled: media use, teaching technique (A-T versus lecture), size of facilities, load policies, time of day, and student preference for instructor.

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* The akwardness of using the word "parallel" is meant to emphasize the strong reservation at this point for using the seemingly more fitting word: comparison.

** One of the problems with the Presidents' Study is lag of information; 1974 data for other colleges will not be available until October, 1975. Thus, state data is based on 1973, GWC and OCC data on 1974.

Table 2

Fall, 1974, loads for GWC, OCC, District, and Fall, 1973, average loads for state, large, and small community colleges in California. Mutually exclusive disciplines are recorded in the summary.

CID #	DISCIPLINE	GWC LOAD	OCC LOAD	DISTRICT LOAD	STATE AVRG.	LARGE COLLEGE AVRG.	SMALL COLLEGE AVRG.
0100	Agriculture & Nat. Resources	-	547	547	508	558	460
0200	Architecture & Env. Design	780	856	832	463	487	327
0400	Biological Sciences	847	1,060	957	589	600	556
0500	Business & Management	593	696	650	546	549	532
0600	Communications	239	406	333	415	442	322
0700	Computer Services	853	531	545	459	475	398
0800	Education	744	756	751	654	680	581
0900	Engineering	586	703	670	466	485	399
1000	Fine & Applied Arts	591	630	617	520	540	452
1100	Foreign Languages	397	517	478	424	445	383
1200	Health Professions	298	502	361	351	351	352
1300	Home Economics	-	717	717	487	509	417
1400	Law	-	240	240	673	677	626
1500	Letters	480	452	463	419	421	401
1600	Library Science	394	-	394	510	573	227
1700	Mathematics	632	554	583	514	527	469
1900	Physical Science	849	573	663	534	544	503
2000	Psychology	1,086	1,145	1,123	613	612	617
2100	Public Affairs & Socs.	540	-	540	609	633	524
2200	Social Science	649	723	690	575	589	529
3000	Commerce	1,038	482	813	564	588	509
4900	Interdisciplinary Studies	810	728	738	591	611	508
5300	Apprenticeship	-	1,585	1,585	618	650	502
6000	Unclassified, Misc.	277	-	277	-	-	-
	School-wide	601	656	634	517	529	476

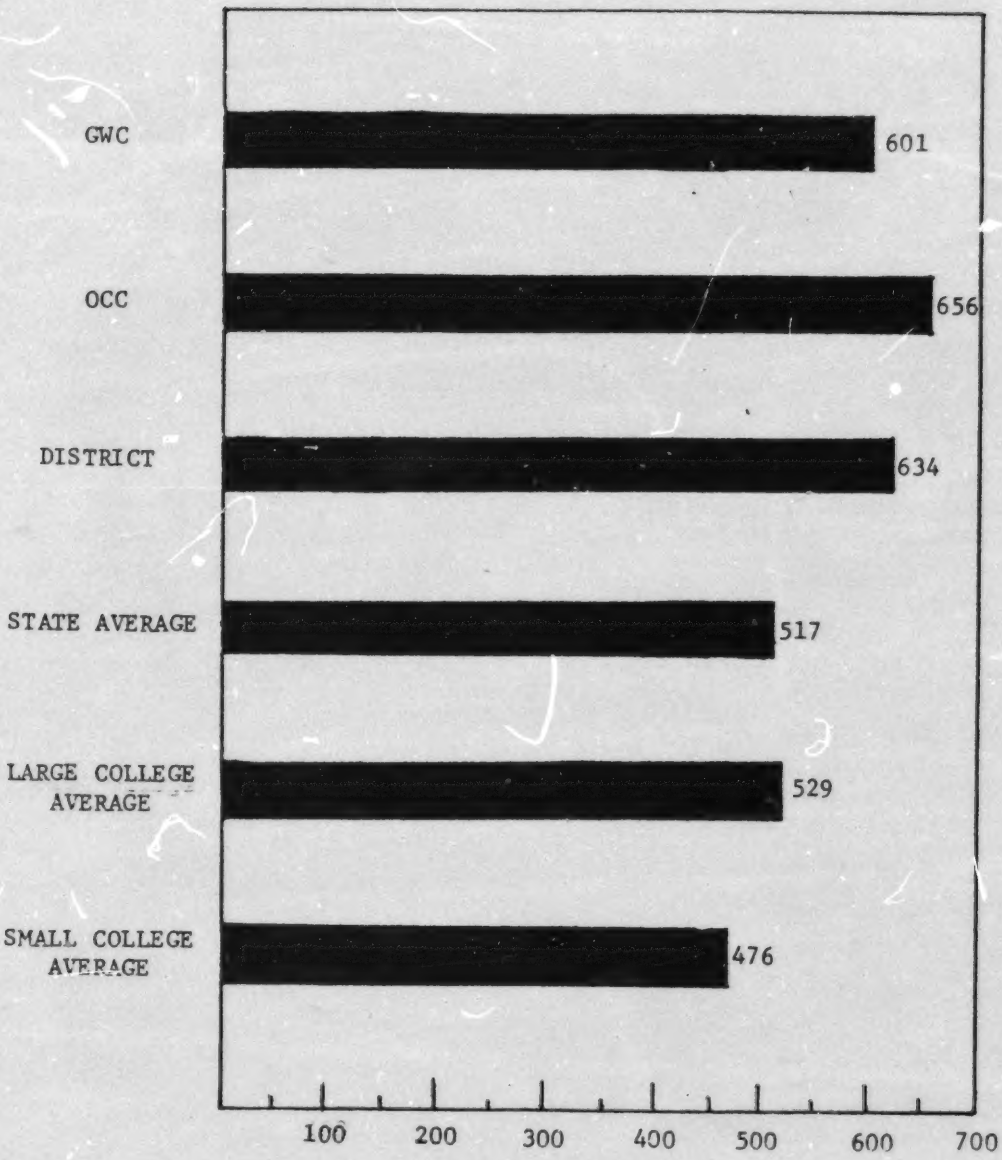

Figure 1

Load factors for GWC, OCC, CCCD, and state large and small college averages for mutually exclusive CIDS

Table 3

Load factors for GWC, OCC, CCCD, and state average for common hundred CID categories.

CID #	DISCIPLINE	GWC LOAD	OCC LOAD	DISTRICT LOAD	STATE LOAD
0200	Architecture & Env. Design	780	686	719	516
0400	Biological Sciences	865	985	921	594
0500	Business & Management	573	716	651	549
0600	Communications	239	438	338	386
0700	Computer Services	853	1,800	1,080	546
0800	Education	746	804	780	664
0900	Engineering	576	729	659	646
1000	Fine & Applied Arts	603	626	618	517
1100	Foreign Languages	381	540	486	434
1500	Letters	481	454	465	422
1700	Mathematics	632	554	585	515
1900	Physical Science	850	533	638	527
2000	Psychology	1,086	1,161	1,132	620
2200	Social Science	664	727	700	575
	School-wide	647	659	654	531

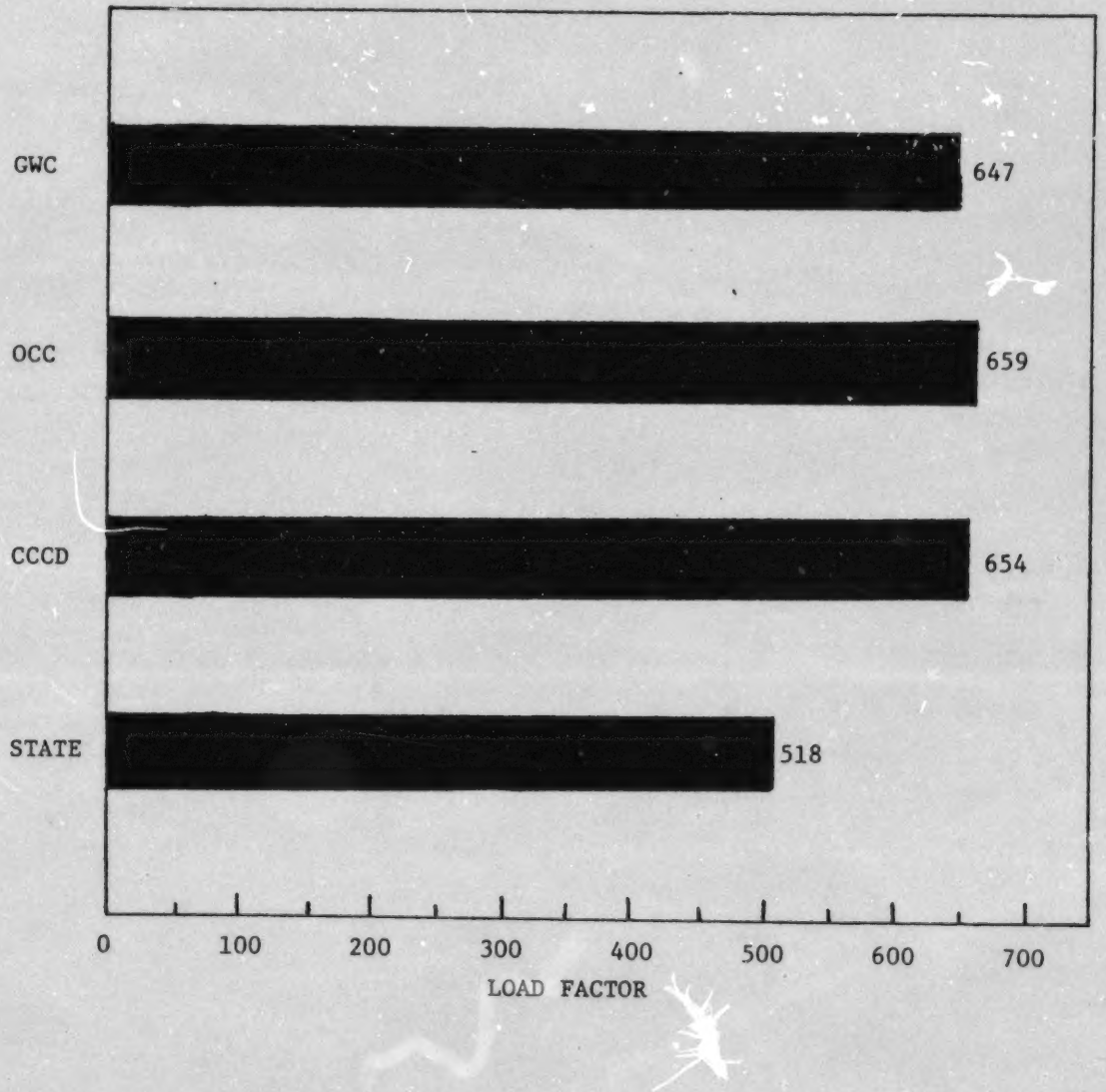

Figure 2

School, District, and statewide load factors for commonly taught disciplines.

For an even finer breakdown of commonly taught disciplines at GWC and OCC, consult Appendix 3, where, and always under the same cautionary remarks, comparisons can be made CID by CID on WSCH, FTE, and load factors. A Chi-square analysis run on the GWC and OCC loads taken from columns five and six of the table in Appendix 3 showed, to no great surprise, a highly significant difference. Here, again, we must be very wary of treating these load factors as absolute indicators of efficiency; other variables must be considered in making judgments.

Table 4 displays the %WSCH for GWC, OCC, CCCD, and for the state. Weekly student contact hours (WSCH) reporting is a standardized process across the state community colleges, making these data much more reliable than load factors. Then, by normalizing WSCH to percent (%WSCH), we arrive at data that are more suited for comparison across colleges. Conclusions based on comparisons of %WSCH are more valid but not as informative as those of (the more volatile) load data. Load data are lucrative because they combine WSCH and FTE in one ratio; but FTE counts are <u>not</u> standardized across colleges, making such comparisons tentative at best.

With only slight variations, %WSCH figures in Table 4 agree pretty much throughout. GWC is 3.23% higher than Coast in the biological sciences and 2.01% higher than the state average. GWC is slightly lower in fine and applied arts and foreign languages. In psychology, GWC is slightly lower than Coast but significantly higher than the state average. The Coast Community College District draws almost twice as many students* to its psychology classes as does the "average" community college participating in the 1973 Presidents' Study.

---

* Strictly speaking, we should say weekly student contact hours.

Table 4

%WSCH data in commonly taught disciplines
for GWC, OCC, CCCD, and state.

CID #	DISCIPLINE	GWC %WSCH	OCC %WSCH	DISTRICT %WSCH	STATE %WSCH
0200	Architecture & Env. Design	1.59	1.71	1.66	.18
0400	Biological Sciences	9.18	5.95	7.23	7.17
0500	Business & Management	10.86	10.55	10.68	9.60
0600	Communications	.79	.95	.89	.91
0700	Computer Services	.20	.09	.13	.23
0800	Education	12.69	12.41	12.52	14.36
0900	Engineering	.95	.95	.95	.86
1000	Fine & Applied Arts	11.31	15.72	13.97	13.00
1100	Foreign Languages	1.75	3.16	2.60	3.21
1500	Letters	13.83	13.43	13.59	15.12
1700	Mathematics	7.33	6.56	6.86	7.45
1900	Physical Science	6.89	5.74	6.20	7.85
2000	Psychology	8.70	9.50	9.18	4.89
2200	Social Science	13.93	13.28	13.54	15.27
	Totals	100.00	100.00	100.00	100.00

PART II

The data will now be cross-referenced and displayed by division; this format should be informative especially to division chairpersons. There are eight primary divisions at GWC,* and Special Education, Library Science, and Interdisciplinary Studies. In this report, the last three will be treated under the heading "Other" since their data are minimal.

Figures 3 and 4 present an overall picture of the %WSCH and %FTE for the entire college, partitioned by divisions. Tables 5-13 itemize this information by displaying divisional breakdowns for weekly student contact hours, full-time equivalents, %WSCH, %FTE, load, and cost index. Business, for example, attracted 9.57% of the students enrolled at GWC (Fig. 3) while using 9.72% of the total full-time equivalent certificated staff (Fig. 4). Equivalently, that division accounted for 9,604 (of the total 100,681) weekly student contact hours and used 16.12 FTE (Table 5). The division shows a load of 596, slightly below 601, the overall college average. Figure 5 displays the loads by division.

*Business, Communications, Fine and Applied Arts, Health Science, Math/Science, Physical Education, Social Science, Technology

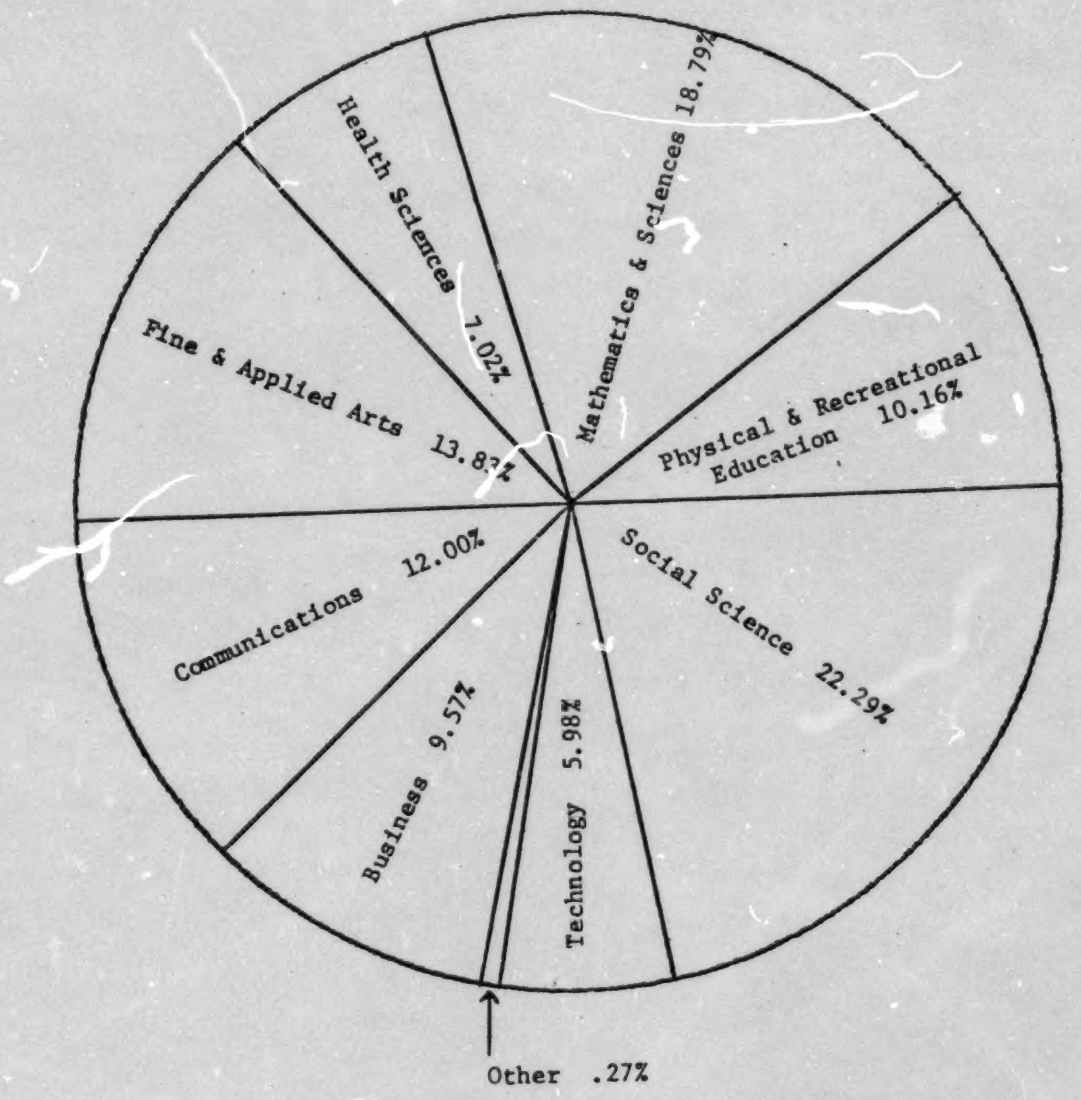

Figure 3

%WSCH for Golden West College
partitioned by division

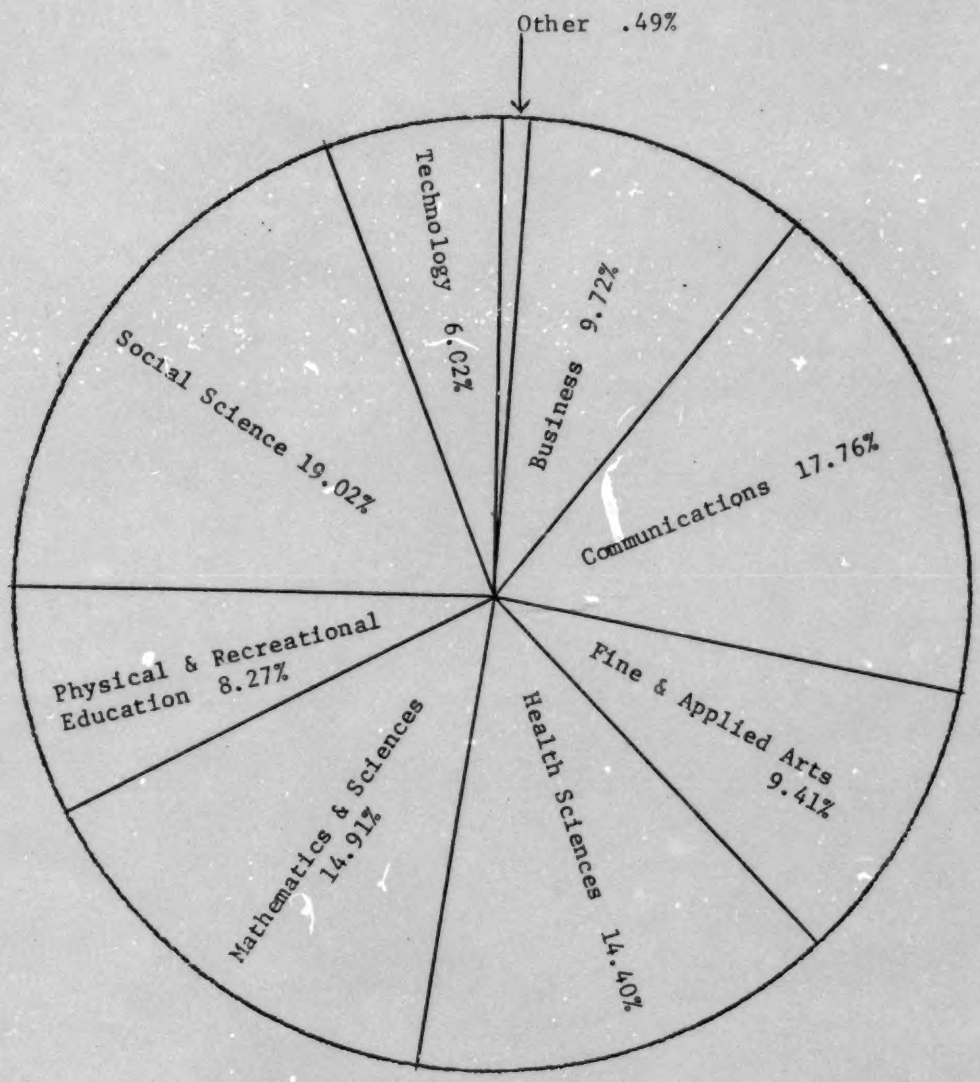

Figure 4

%FTE for Golden West College
partitioned by division

Table 5

Weekly student contact hours (WSCH), %WSCH, full-time equivalent, %FTE, load and cost index for Business Division

CID	DISCIPLINE	WSCH	%WSCH	FTE	%FTE	LOAD	COST INDEX
0501	Business; Commerce, Gen.	2,180	2.17	2.19	1.32	995	60
0502	Accounting	2,321	2.31	4.25	2.55	546	110
0506	Business Management & Administration	591	.59	1.13	.69	523	115
0509	Marketing & Purchasing	862	.86	1.63	.98	529	114
0514	Secretarial Studies, Shorthand	822	.82	1.30	.79	632	95
0517	General Business, Econ.	117	.12	.19	.11	616	98
0530	Retail Advertising	87	.09	.19	.11	458	131
0536	Retail Trades	114	.11	.38	.24	300	200
0538	General Clerical	414	.41	1.75	1.06	237	254
0540	Typing & Related Occupations	1,264	1.26	2.28	1.37	554	108
0598	Business & Management Work Experience	580	.58	.45	.28	1,289	47
0599	Commercial Law	90	.09	.19	.11	474	127
0701	Computer & Information Science, General	162	.16	.19	.11	853	70
	TOTALS	9,604	9.57	16.12	9.72	596	102

Table 6

Weekly student contact hours (WSCH), %WSCH, full-time equivalent, %FTE, load and cost index for Communications Division

CID	DISCIPLINE	WSCH	%WSCH	FTE	%FTE	LOAD	COST INDEX
0601	Communications, Gen.	115	.11	1.69	1.02	68	384
0602	Journalism	363	.36	.75	.46	484	124
0603	Radio/T.V.	150	.15	.19	.11	789	76
1102	French	388	.39	1.00	.60	388	155
1103	German	280	.28	1.00	.60	280	215
1104	Italian	156	.15	.25	.16	624	96
1105	Spanish	724	.72	1.65	.99	439	137
1501	English, General	6,146	6.10	12.06	7.31	510	118
1502	Literature	543	.54	1.31	.79	415	145
1506	Speech, Debate	2,268	2.27	5.75	3.54	398	151
1507	Creative Writing	75	.07	.19	.11	395	152
1530	English, Reading	845	.84	1.73	1.04	488	123
1599	Technical Writing	71	.07	.17	1.03	435	144
	TOTALS	12,124	12.05	27.74	17.76	437	147

Table 7

Weekly student contact hours (WSCH), %WSCH, full time equivalent, %FTE, load and cost index for Fine Arts Division

CID	DISCIPLINE	WSCH	%WSCH	FTE	%FTE	LOAD	COST INDEX
1001	Fine Arts, Gen.	78	.08	.19	.11	411	146
1002	Art, Paint, Draw	3,502	3.48	5.27	3.15	665	92
1003	Art History & Appreciation	431	.43	.31	.19	1,390	43
1004	Music Activity	1,306	1.30	2.86	1.71	457	132
1005	Music Theory	617	.61	1.05	.63	588	102
1006	Music History & Appreciation	954	.95	.38	.23	2,511	24
1007	Drama	1,181	1.17	3.72	2.22	317	190
1009	Applied Design	360	.36	.36	.22	1,000	60
1011	Photography	660	.66	1.00	.60	660	91
3007	Cosmetology	4,825	4.79	4.65	2.78	1,038	58
	TOTALS	13,914	13.83	19.79	11.84	703	85

Table 8

Weekly student contact hours (WSCH), %WSCH, full-time equivalent, %FTE, load and cost index for Health Sciences Division

CID	DISCIPLINE	WSCH	%WSCH	FTE	%FTE	LOAD	COST INDEX
1203	Nursing, R.N.	2,018	2.00	7.40	4.50	273	220
1234	Mental Health Tech.	1,797	1.78	8.00	4.88	225	267
1238	Nursing, L.V.N.	2,280	2.26	5.40	3.23	422	142
1239	Psychiatric Tech.	990	.98	3.00	1.79	330	182
	TOTALS	7,085	7.02	23.80	14.40	298	205

Table 9

Weekly student contact hours (WSCH), %WSCH, full-time equivalent, %FTE, load and cost index for Physical Rec. Ed. Division

CID	DISCIPLINE	WSCH	%WSCH	FTE	%FTE	LOAD	COST INDEX
0835	Physical Education	8,899	8.84	12.64	7.65	704	85
0837	Health Education	780	.77	.24	.14	3,250	18
0851	Recreational Assistants	556	.55	.80	.48	695	86
	TOTALS	10,235	10.16	13.68	8.27	748	81

Table 10

Weekly student contact hours (WSCH), %WSCH, full-time equivalent, %FTE, load and cost index for Mathematics/Science Division

CID	DISCIPLINE	WSCH	%WSCH	FTE	%FTE	LOAD	COST INDEX
0401	Biology, General	3,239	3.22	3.76	2.35	861	70
0402	Botany, General	216	.21	.36	.22	600	100
0407	Zoology, General	720	.72	1.27	.76	567	106
0409	Pharmacology	268	.27	.50	.30	536	112
0410	Physiology	1,913	1.90	1.42	.85	1,347	45
0411	Microbiology	651	.65	1.23	.73	529	114
0420	Ecology	573	.57	.41	.24	1,398	43
1701	Math, General	4,582	4.55	8.01	4.88	572	105
1702	Statistics	111	.11	.14	.08	793	76
1703	Applied Math	1,148	1.14	1.09	.65	1,053	57
1901	Physical Science, Gen.	464	.46	.41	.24	1,132	53
1902	Physics	705	.70	.95	.57	742	81
1905	Chemistry	2,978	2.96	3.74	2.23	796	76
1907	Chemistry, Organic	276	.27	.50	.30	552	109
1914	Geology	1,068	1.06	.86	.51	1,242	48
	TOTALS	18,912	18.79	24.65	14.91	767	79

Table 11

Weekly student contact hours (WSCH), %WSCH, full-time equivalent, %FTE, load and cost index for Social Science Division

CID	DISCIPLINE	WSCH	%WSCH	FTE	%FTE	LOAD	COST INDEX
1509	Philosophy	786	.76	1.31	.78	586	103
1510	Philosophy, Religion	354	.35	.56	.33	632	95
2001	Psychology	6,931	6.88	6.38	3.91	1,086	55
2105	Police Science	2,755	2.74	5.06	3.12	544	110
2132	Public Affairs	81	.08	.19	.11	426	141
2201	Social Science, Gen.	42	.04	.19	.11	221	273
2202	Anthropology	2,622	2.60	1.69	1.01	1,551	39
2204	Economics	531	.53	1.13	.68	470	128
2205	History	3,009	2.99	6.19	3.80	486	124
2206	Geography	882	.88	1.69	1.01	522	115
2207	Political Science	1,668	1.66	2.63	1.57	634	95
2208	Sociology	2,349	2.33	3.19	1.91	736	82
2298	Work Experience	454	.45	1.13	.68	402	151
	TOTALS	22,464	22.29	31.34	19.02	717	85

Table 12

Weekly student contact hours (WSCH), %WSCH, full-time equivalent, %FTE, load, and cost index for Technology Division

CID	DISCIPLINE	WSCH	%WSCH	FTE	%FTE	LOAD	COST INDEX
0230	Architectural Tech.	1,271	1.26	1.63	.97	780	77
0839	Industrial Arts	436	.43	.67	.40	651	92
0942	Engineering Tech.	402	.40	1.00	.60	503	119
0946	Automotive, Body & Fender	656	.65	.80	.48	820	73
0948	Automotive Tech.	1,245	1.24	2.50	1.49	541	111
0953	Drafting	760	.75	1.32	.78	576	104
0956	Manufacturing Tech.	462	.46	.60	.36	770	78
1030	Printing Tech.	791	.79	1.58	.94	501	120
	TOTALS	6,023	5.98	10.10	6.02	596	101

Table 13

Weekly student contact hour (WSCH), %WSCH, full-time equivalent, %FTE load, and cost index for "other" category

CID	DISCIPLINE	WSCH	%WSCH	FTE	%FTE	LOAD	COST INDEX
6000	Special Education	36	.04	.13	.09	277	225
4902	Natural Science	162	.16	.20	.13	810	81
1630	Library Science (Library Tech.)	100	.10	.25	.16	400	150
1699	Library Science	32	.02	.06	.11	533	164
	TOTALS	132	.32	.31	.27	425	225

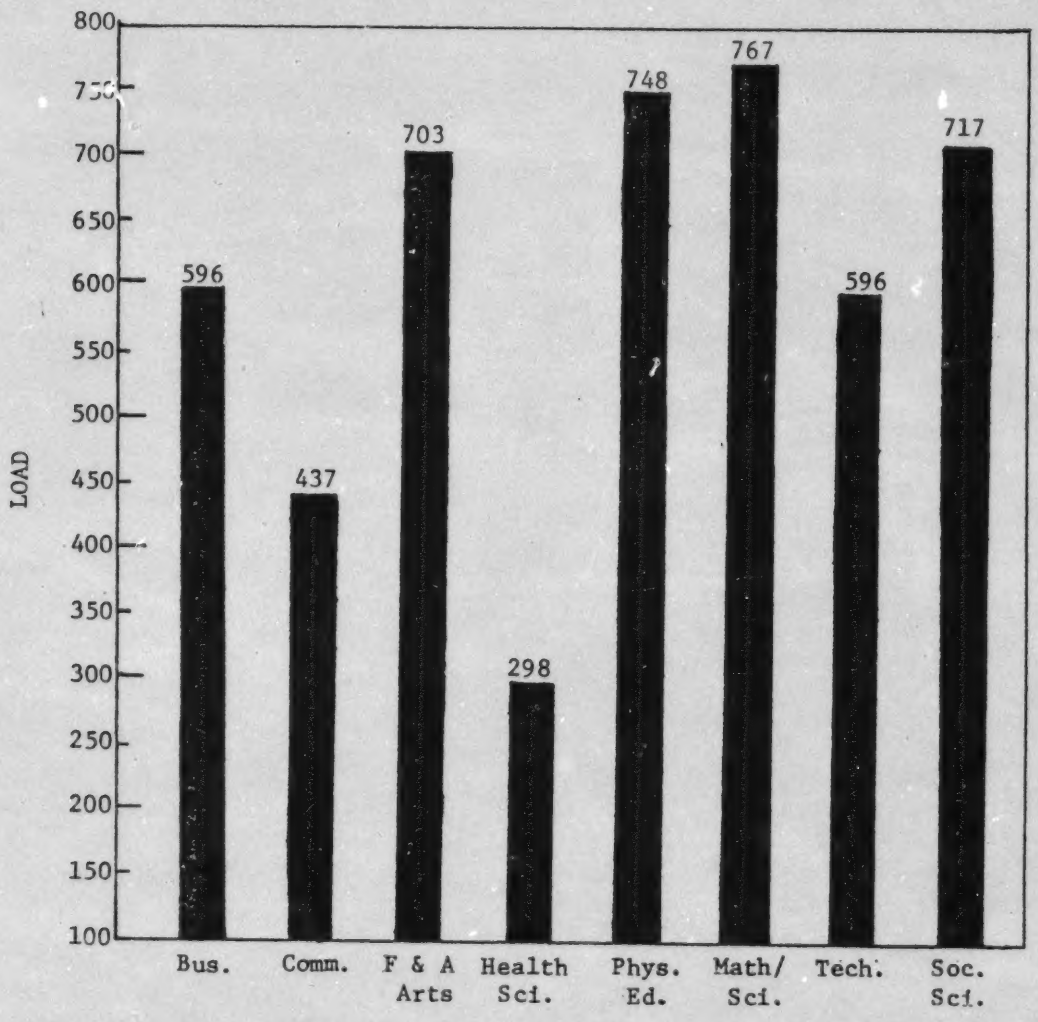

Figure 5

Load factors for the eight divisions
at Golden West College, Fall, 1974, semester.

Considered simultaneously, the %WSCH and %FTE figures suggest what might be called an "efficiency index." If we assume the two figures ought to be close, then an efficiency index can be generated by considering the quotient %WSCH/%FTE. The number one, then, is the break-even point. A ratio above one could be considered "efficient"; below one, "not efficient?"*

In the 1973 Presidents' Study, this ratio was inverted (%FTE/%WSCH), multiplied by 100, and called "cost index."** This makes one hundred the break-even point. Thus, a cost index above 100 reflects an "expensive" discipline (or division); a cost index below 100 indicates a discipline (or division) that is "cost-effective?"* The cost index figures by division are displayed in Tables 5-13 as well as Figure 6.

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* The question marks reflect this author's reluctance to place an efficiency yardstick on the learning process, while recognizing the need for some tools in carrying out managerial decisions.

** Strictly speaking, the authors of the Presidents' Study used the ratio:

$$\text{load} = \frac{\text{college load factor}}{\text{discipline load factor}} \times 100$$

But this is mathematiclaly equivalent to %FTE/%WSCH x 100 since,

$$\frac{\%\text{FTE}}{\%\text{WSCH}} = \frac{\frac{\text{discipline FTE}}{\text{college FTE}}}{\frac{\text{discipline WSCH}}{\text{college WSCH}}} = \frac{\frac{\text{college WSCH}}{\text{college FTE}}}{\frac{\text{discipline WSCH}}{\text{discipline FTE}}} = \frac{\text{college load factor}}{\text{discipline load factor}}.$$

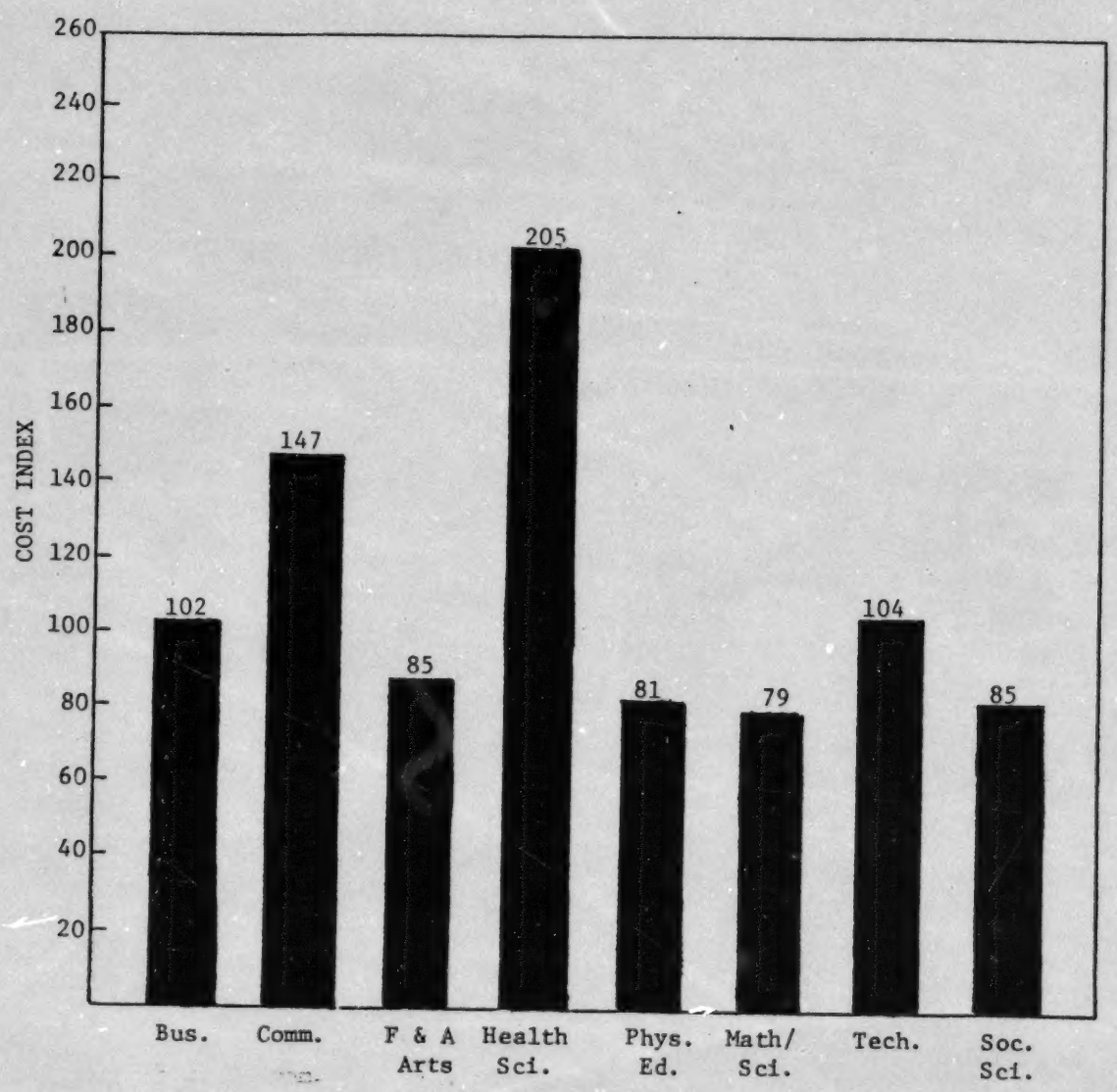

Figure 6

Cost index for the eight divisions
at Golden West College, Fall, 1974, semester.

Four divisions have a cost index above 100: Business (102), Communications (147), Health Science (205), and Technology (104). Mathematics and Science has the lowest (78).

Tables 5-13 can be used by division chairpersons to gauge weekly student contact hours, full-time equivalent, their percent, load, and cost of division and individual disciplines in that (and other) divisions. Decisions based on this data need be made warily, for the data was collected in retrospect, without a standardized method of collection; some data may not be totally accurate. Note that this is a first effort, in the future more accurate and standard methodology will be established.

If further breakdown of CID categories is required, Appendix 4 can be used in conjunction with Tables 5-13. For example, in Table 6, Communications, CID #1501 is used for "English, General." Appendix 4 explains further that "English, General" includes English 10, 40AC, 50, 100, 110, 115, B, and Special Education 40AB. Furthermore, Table 6 shows that CID #1501 has 6,146 weekly student contact hours (6.10% of the total 100,681 for the college), utilized 12.06 FTE (7.31% of the total 167.4 FTE), has a load of 510 (WSCH/FTE), and a cost index of 118 (18% higher than the break-even point of 100). Breakdowns by specific course can then be estimated by the division chairperson. Appendix 4 can be of further help in this estimation task since it shows the WSCH for each course. Appendix 5 also lists cost indices for each division and discipline.

Divisional comparison of GWC with state %WSCH and %FTE of common disciplines is displayed in Figures 7 and 8. For example, Figure 7 shows that the Mathematics and Science Division draws 18.81% of the total GWC

student contact hours (not to be confused with students) whereas, statewide, math/science draws 20.79%. Again, these figures reflect common disciplines.

The largest difference in %WSCH is in Technology (see Fig. 7). GWC draws 4.26% more WSCH than the state average. Health Sciences also draw more %WSCH than the state by 2.9%. In Communications, however, GWC falls short by 4.20%. Other divisions are rather close to state averages.

Examination of Figure 8 shows significant differences in %FTE. Health Science employs 7.68% more teachers than the state average. Technology utilizes 4.02% more teachers while Math/Science use 4.84% fewer teachers. The other divisions differ by smaller amounts.

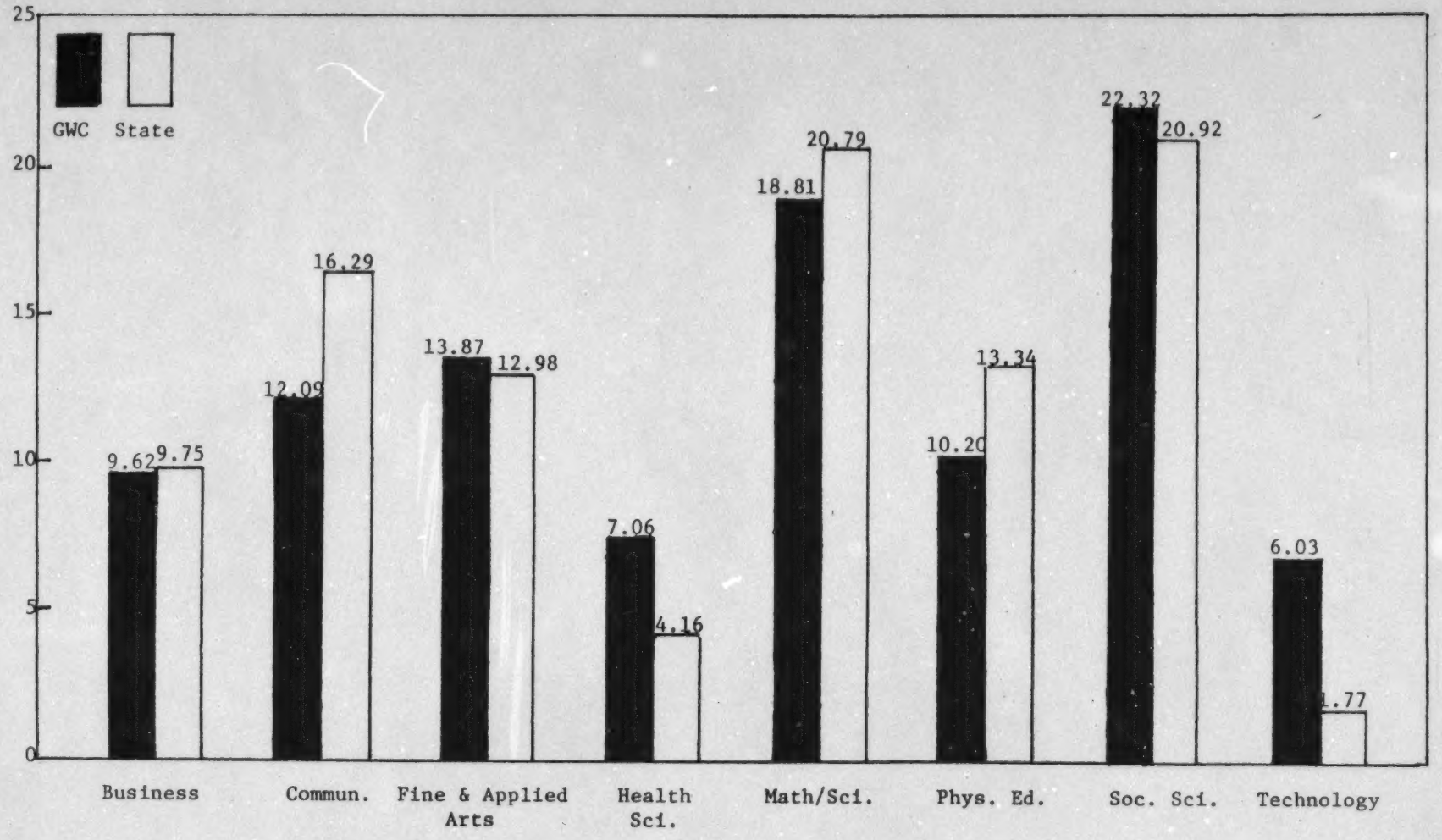

Figure 7

Divisions' %WSCH of commonly taught disciplines for GWC and state

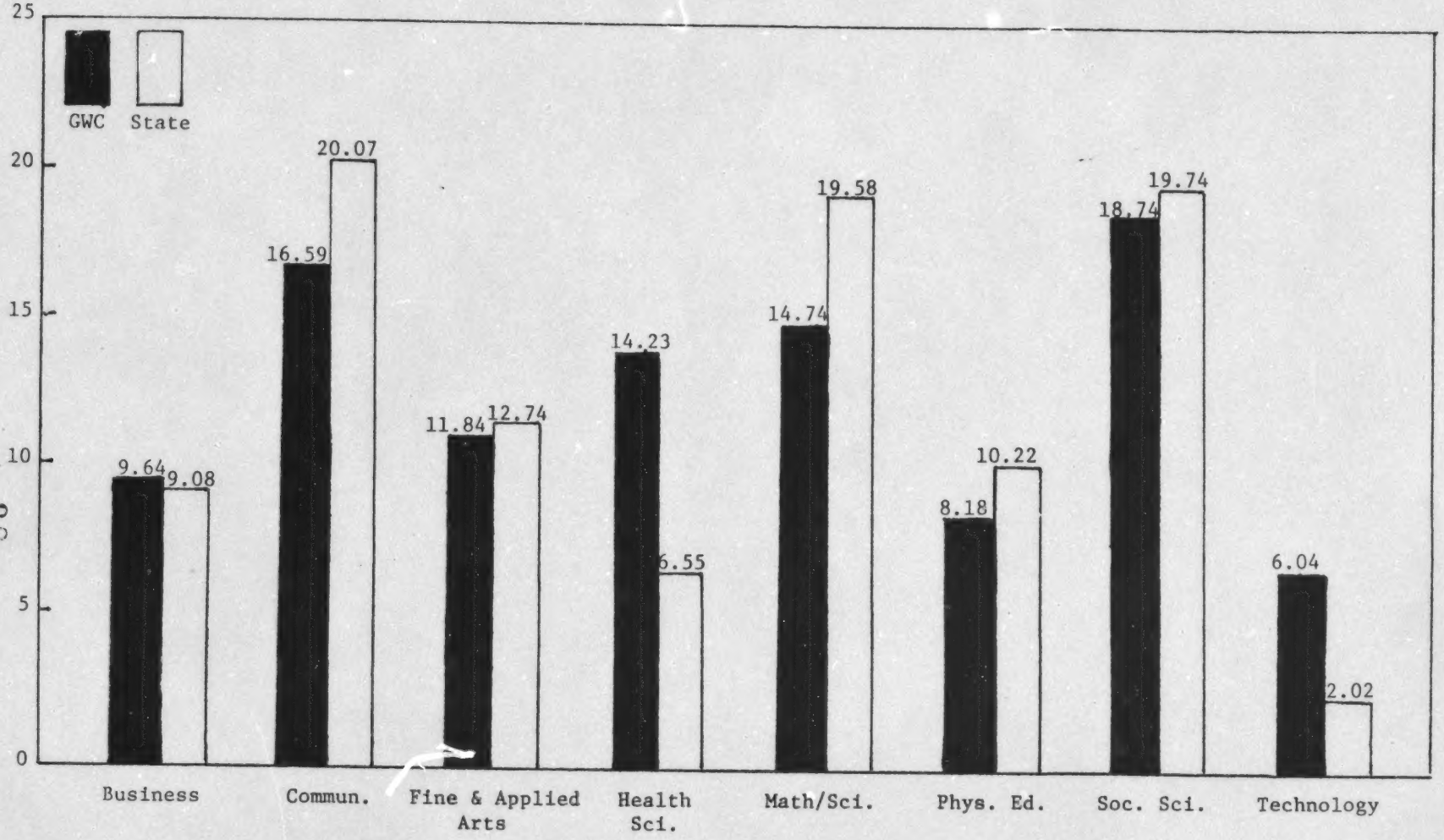

Figure 8

Divisions' %FTE of commonly taught disciplines for GWC and state

Appendix 1

Colleges that participated in the Presidents' Study.

NORTHERN CALIFORNIA

Continuously-Reporting (1968-1973)	LARGER	SMALLER
	American River	Cabrillo
	Contra Costa	Hartnell
	De Anza	Merced
	Diablo Valley	Monterey Peninsula
	Foothill	Ohlone
(14)	Fresno (11)	Redwoods
	Marin	Reedley
	Modesto	Sierra
	Sacramento	Siskiyous
	San Francisco	Solano
	San Jose	Yuba
	San Mateo	
	Santa Rosa	
	West Valley	
Also Reporting 1973	Chabot	Butte
	Laney	Canada
	Merritt	Columbia
(4)	Shasta (12)	Cosumnes River
		Cuesta
		Gavilan
		Hancock
		Lassen
		Napa
		Porterville
Forty-one northern colleges		Sequoias
		Skyline

SOUTHERN CALIFORNIA

Continuously-Reporting (1972, 1973)		
	Bakersfield	Antelope Valley
	Chaffey	Canyons
	Cypress	Compton
	El Camino	Glendale
	L A Trade Technical	Palo Verde
(10)	Moorpark (6)	Victor Valley
	Santa Ana	
	Santa Barbara	
	Santa Monica	
	Ventura	
Also Reporting 1973	Fullerton	L A Southwest
	L A City	L A West
(6)	L A East (4)	Mira Costa
	L A Harbor	Mt San Jacinto
	L A Pierce	
	L A Valley	
	Southwestern (Summaries only)	
Twenty-six southern colleges		

WSCH, FTE, AND FACULTY LOAD IN CALIFORNIA COMMUNITY COLLEGES

College: Golden West College, Huntington Beach, CA 92647

Person Reporting: Dr. Angelo Segalla

Fall Qtr. or Sem. 1974-75 Year

CODE	TITLE	WSCH	FTE	LOAD	%WSCH ÷100
0100	AGRICULTURE AND NATURAL RESOURCES				
0101	Agriculture, General.....				
0107	Wildlife Management.....				
0109	Horticulture, Orn. and Unclassified.				
0114	Forestry and Forestry Technology....				
0198	Agriculture Work Experience Ed.....				
0199	Conservation Education.....				
**	Additional classifications, see below				
0200	ARCHITECTURE AND ENVIRONMENTAL DES..	1,271	1.63	780	.0126
0201	Environmental Design, General.....				
0202	Architecture.....				
0230	Architectural Technology.....	1,271	1.63	780	.0126
0400	BIOLOGICAL SCIENCES.....	7,580	8.95	847	.0753
0401	Biology, General and Life Science...	3,239	3.76	861	.0322
0402	Botany, General.....	216	.36	600	.0021
0403	Bacteriology.....				
0407	Zoology, General.....	720	1.27	567	.0072
0410	Physiology, Human, Animal; Anatomy..	1,913	1.42	1,347	.0190
0411	Microbiology.....	651	1.23	529	.0065
0418	Marine Biology.....				
0420	Ecology.....	573	.41	1,398	.0057
0421	Entomology.....				
0498	Biological Sciences Work Exp. Ed....				
0499	Genetics.....				
0500	BUSINESS AND MANAGEMENT..... (also next page)	9,442	15.91	593	.0938
0501	Business and Commerce, General.....	2,180	2.19	995	.0217
0502	Accounting.....	2,321	4.25	546	.0231
0503	Business Statistics.....				
0504	Banking and Finance.....				
0506	Business Management and Administrat.	591	1.13	523	.0059
0508	Hotel and Restaurant Management.....				
0509	Marketing and Purchasing.....	862	1.63	529	.0086
0510	Transportation and Public Utilities.				
0511	Real Estate.....				
0512	Insurance.....				
0514	Secretarial Studies, Shorthand.....	822	1.30	632	.0082
0534	Merchandising, General.....				
0536	Retail Trades Specify- Ret. Principles	114	.38	300	.0011
0538	General Clerical, Filing, Off. Mach.	414	1.75	237	.0041
0540	Typing and Related Occupations.....	1,264	2.28	554	.0126

		WSCH	FTE	LOAD	%WSCH
0541	Foremanship, Supervision, Mgmt. Dev.				
0598	Business and Management Work Exp.Ed.	580	.45	1,289	.0058
0599	Commercial Law	90	.19	474	.0009
0600	COMMUNICATIONS	628	2.63	239	.0062
0602	Journalism	363	.75	484	.0036
0603	Radio/Television Broadcasting	150	.19	789	.0015
0700	COMPUTER AND INFORMATION SCIENCE	162	.19	853	.0016
0701	Computer and Information Sci., Gen.	162	.19	853	.0016
0702	Information Sciences and Systems				
0703	Data Processing				
0704	Computer Programming				
0705	Systems Analysis				
0730	Data Processing Technology				
0800	EDUCATION	10,671	14.35	744	.1050
0801	Education, General				
0823	Nursery School Assistant (Pre-El.Ed.)				
0835	Physical Education	8,899	12.64	704	.0884
0837	Health Education	780	.24	3,250	.0077
0839	Industrial Arts (See 0900-2)	436	.67	651	.0043
0850	Education Assistants				
0851	Recreational Assistants (See 2103)	556	.80	695	.0055
0898	Education Work Experience Education				
0899	Cooperative Education				
0900	ENGINEERING AND RELATED FIELDS (See also 5300) (also next page)	3,525	6.02	586	.0350
0900-2	Industrial Technology, General				
0901	Engineering, General				
0902	Aeronautics, Aerospace..(See 0950)				
0906	Chemical Technology				
0908	Civil, Construction, Transport,Engn.				
0910	Machine Tech.,M.E.,Gen.Mech.,Servic'g				
0914	Metallurgical Engn. (Use 0937,pref'd)				
0915	Materials				
0921	Mechanics (other than 0910)				
0930	Diesel Engineering				
0931	Electrical Technology, E.E.,E.E.Tech.				
0933	Electronics, Electronics Technology				
0935	Electromechanical Technology, Engn.				
0936	Environmental Control Technology				
0937	Metals, Metalworking (Welding use 534				
0941	Business Machine Maint.,Bus.Eq.Techn.				
0944	Air Conditioning				
0945	Refrigeration				
0946	Automotive, Body and Fender	656	.80	820	.0065
0947	Automotive Mechanics				
0948	Automotive Technology (Accessories)	1,245	2.30	541	.0124

		WSCH	FTE	LOAD	%WSCH
0949	Small Engine Repair.....				
0950	Aviation Maintenance.....				
0952	Blueprint Reading.....				
0953	Drafting, Graphics, Dr.Tech.,Tech.Ill	760	1.32	576	.0075
0956	Manufacturing Technology.....	462	.60	770	.0046
0957	Surveying.....				
0998	Engineering Work Experience Educatior				
0999	Other Specify.._____				
	Carpentry...Use 5330				
1000	FINE AND APPLIED ARTS.....	9,880	16.72	591	.0981
1001	Fine Arts, Gen. Art-Theory.....	78	.19	411	.0008
1002	Art-Paint.Draw.Sculp. Art-Laboratory	3,502	5.27	665	.0348
1003	Art History and Appreciation.....	431	.31	1,390	.0043
1009	Applied Design, App. Art.,Comm'l Art	360	.36	1,000	.0036
1004	Music Activity (Perf./Comp.Th.).....	1,306	2.86	457	.0130
1005	Music Theory.....	617	1.05	588	.0061
1006	Music History and Appreciation.....	954	.38	2,511	.0095
1007	Drama, Dramatic Arts, Theater Arts..	1,181	3.72	317	.0117
1008	Dance.....				
1010	Cinematography.....				
1011	Photography.....	660	1.00	660	.0066
1030	Printing Technology, Grap.Arts,Prtg.	791	1.58	501	.0079
1098	Fine Arts Work Experience Education.				
1100	FOREIGN LANGUAGES.....	1,548	3.90	397	.0154
1102	French.....	388	1.00	388	.0039
1103	German.....	280	1.00	280	.0028
1104	Italian.....	156	.25	624	.0015
1105	Spanish.....	724	1.65	439	.0072
1106	Russian.....				
1107	Chinese.....				
1108	Japanese.....				
1109	Latin.....				
1116	Swahili, African Languages:_____				
1117	Brazilian-Portuguese.....				
1117	Pilipini.....				
1117	Language Laboratory, Gen. For.Lang..				
1200	HEALTH SERVICES..... (also next page)	7,085	23.80	298	.0704
1201	Health Services, Gen., Health Careers				
1203	Nursing, R.N. (For L.V.N.see 1238)..	2,018	7.40	273	.0200
1212	Physical Therapy.....				
1213	Dental Hygiene.....				
1214	Public Health.....				
1215	Medical Record Techn.,M.R.Librarians				
1224	Dental Technology.....				

		WSCH	FTE	LOAD	%WSCH
1225	Radiological Technology.....				
1230	Dental Assisting.....				
1234	Mental Health Technician	1,797	8.00	225	.0178
1236	Nursing Assistance, Nursing Aide...				
1238	Nursing, Practical, L.V.N.....	2,280	5.40	422	.0226
1239	Psychiatric Aide and Technician.....	990	3.00	330	.0098
1242	Radiation Therapy.....				
1243	Orthopedic Assisting, Prosth. etc...				
1244	Medical Assisting.....				
1245	Inhalation Therapy, Irespiratory Th.				
1298	Health Service Work Experience Ed...				
1300	HOME ECONOMICS.....				
1301	Home Economics, General.....				
1302-1	Housing and Home Furnishing.....				
1302-2	Decorative Arts.....				
1303	Clothing, Textiles, Apparel Design..				
1304	Consumer Economics, Consumer Educ..				
1305	Child Development.....				
1306	Foods, Nutrition.....				
1308	Family Life Education, Fam. Relations				
1398	Home Economics Work Experience Educ.				
1399	Upholstery Technology.....				
1400	LAW (Commercial Law, see 0599).....				
1401	Law, General..Jurisprudence.....				
1500	LETTERS.....	11,088	23.09	480	.1101
1501	English, General.....	6,146	12.06	510	.0610
1502	Literature.....	543	1.31	415	.0054
1504	Classics.....				
1505	Linguistics, Phonetics, Seman.Philol				
1507	Creative Writing.....	75	.19	395	.0007
1530	Reading, Vocabulary.....	845	1.73	488	.0084
1599	Technical Writing.....	71	.17	418	.0007
1506	Speech, Debate, Forensics.....	2,268	5.75	398	.0227
1508	English as a Second Language-E.S.L..				
1509	Philosophy.....	786	1.31	586	.0076
1600	LIBRARY SCIENCE.....	122	.31	394	.0012
1601, 1630	Library Science, Lib.Techn....	100	.25	400	.0010
1700	MATHEMATICS.....	5,841	9.24	632	.0580
1701	Mathematics, General.....	4,582	8.01	572	.0455
1702	Statistics.....	111	.14	793	.0011
1703	Applied Mathematics, Techn. Math....	1,148	1.09	1,053	.0114
1799	Slide Rule.....				

		WSCH	FTE	LOAD	%WSCH
1900	PHYSICAL SCIENCES	5,491	6.47	849	.0545
1901	Physical Science, General	464	.41	1,132	.0046
1902	Physics	705	.95	742	.0070
1905	Chemistry	2,978	3.74	796	.0296
1911	Astronomy				
1913	Meterology, Atmospheric Sciences				
1914	Geology	1,068	.86	1,242	.0106
1918	Paleontology				
1919	Oceanography				
1998	Physical Sciences Work Experience Ed				
2000	PSYCHOLOGY	6,931	6.38	1,086	.0688
2001	Psychology, General	6,931	6.38	1,086	.0688
2100	PUBLIC AFFAIRS AND SERVICES	2,836	5.25	540	.0282
2101-1	Community Development				
2101-2	Community Services, Public Service				
2103	Recreation, Recreation Management				
2105	Police Science, Crim.,Law.Enf.,Corr. Sci.,Prob. and Parole, Indus. Sec.	2,755	5.06	544	.0274
2133	Fire Science				
2198	Public Affairs Work Experience Educ.				
2199	Other. Specify:_____				
2200	SOCIAL SCIENCES	11,557	17.81	649	.1148
2201	Social Science, General	42	.19	221	.0004
2202	Anthropology	2,622	1.69	1,551	.0260
2203	Archeology				
2204	Economics	531	1.13	470	.0053
2205	History	3,009	6.19	486	.0299
2206	Geography	882	1.69	522	.0088
2207	Political Science, Government	1,668	2.63	634	.0166
2208	Sociology	2,349	3.19	736	.0233
22xx	Cultural (Ethnic) Studies, unclassi				
2211	Black Studies				
2212	American Indian Studies				
2213	Mexican-American Studies				
2230	Asian-American Studies				
2299	American Studies				
3000	COMMERCIAL SERVICES	4,825	4.65	1,038	.0479
3002	Food Services, Food. Serv. Techn.				
3307	Cosmetology	4,825	4.65	1,038	.0479
4900	INTERDISCIPLINARY STUDIES (also next page)	162	.20	810	.0016
4901	General Liberal Arts and Sciences				

		WSCH	FTE	LOAD	%WSCH
4902	Natural Science, Contemp.Nat'l.Sci..	162	.20	810	.0016
4903	Humanities.....				
4904	Applied Science.....				
4930-1	Counseling, Guidance, Orientation.				
4930-2	Student Leadership.....				
4999	Futurity, Study of the Future, Inven				
4999	Interdisciplinary Science.....				
4999	Interdisciplinary Studies.....				
4999	Experimental College.....				
5300	APPRENTICESHIP (See state definition				
5330	Carpentry.....				
5338	Painting.....				
5339	Millwork, Cabinetry.....				
5341	Welding and Cutting.....				
5343	Heavy Equipment Maintenance, Oper'n				
5399	Airline Stewardess.....				
5399	Skills Development (not English)....				
6000	UNCLASSIFIED, Specify:_____	36	.13	277	.0004

ADDITIONAL DISCIPLINES

Code	Title	WSCH	FTE	LOAD	%WSCH
0409	Biology, Pharmacology	268	.50	536	.0027
0517	General Business, Business Econ.	117	.19	616	.0012
0530	Retail Advertising	87	.19	458	.0009
0601	Special Education,	115	1.69	68	.0011
0942	Engineering Tech.	402	1.00	503	.0040
1510	Phil., Intro to Religion	354	.56	632	.0035
1699	Library Science	22	.06	367	.0002
1907	Physical Science, Chemistry	276	.50	552	.0027
2132	Public Affairs, Administration of Jus.	81	.19	426	.0008
2298	Social Science, Work Experience	454	1.13	402	.0045

Appendix 3

WSCH, FTE, and load factors for commonly taught CID categories at GWC and OCC

CID #	WSCH		FTE		LOAD	
	GWC	OCC	GWC	OCC	GWC	OCC
0230	1,271	2,065	1.53	3.01	780	686
0401	3,239	3,449	3.76	3.14	861	1,098
0402	216	552	.36	.73	600	756
0407	720	363	1.27	1.00	567	363
0410	1,913	1,465	1.42	1.00	1,347	1,465
0411	651	629	1.23	1.00	529	629
0420	573	741	.41	.44	1,398	1,684
0501	2,180	2,010	2.19	3.10	995	648
0502	2,321	3,380	4.25	5.28	546	640
0506	591	189	1.13	.40	523	473
0509	862	678	1.63	1.49	529	455
0514	822	1,148	1.30	2.70	632	425
0530	87	259	.19	.63	458	411
0536	114	156	.38	.40	300	390
0538	414	1,485	1.75	1.33	237	1,117
0540	1,264	3,457	2.28	2.49	554	1,388
0601	115	270	1.69	.64	68	422
0602	363	311	.75	1.00	484	311
0603	150	574	.19	1.00	789	574
0701	162	108	.19	.06	853	1,800
0835	8,899	12,744	12.64	16.42	704	776
0837	780	1,158	.24	.65	3,250	1,782
0839	436	1,106	.67	1.59	651	696
0953	760	1,152	1.32	1.58	576	796
1002	3,502	8,249	5.27	12.36	665	667
1003	431	747	.31	.33	1,390	2,264
1004	1,306	2,968	2.86	5.70	457	521
1005	617	1,354	1.05	2.05	588	660
1006	954	436	.38	.83	2,511	525
1007	1,181	1,312	3.72	3.40	317	386
1009	360	150	.36	.33	1,000	455
1011	660	3,801	1.00	5.37	660	708
1102	388	1,151	1.00	1.72	388	669
1103	280	793	1.00	2.00	280	397
1105	724	1,879	1.65	3.36	439	559
1501	6,416	9,008	12.06	16.97	510	531
1502	543	1,785	1.31	5.70	415	313
1506	2,268	2,424	5.75	6.64	398	365

CID #	WSCH		FTE		LOAD	
	GWC	OCC	GWC	OCC	GWC	OCC
1507	75	237	.19	.59	395	554
1509	786	1,656	1.31	3.60	586	460
1510	354	519	.56	.98	632	530
1530	845	522	1.73	1.28	488	408
1701	4,582	6,003	8.01	11.89	572	505
1702	111	571	.14	1.14	793	501
1703	1,148	1,358	1.09	1.28	1,053	1,061
1901	464	424	.41	1.14	1,132	372
1902	705	1,410	.95	2.84	742	496
1905	2,978	3,976	3.74	6.80	796	585
1907	276	264	.50	.73	552	362
1914	1,068	865	.86	1.50	1,292	577
2001	6,931	11,487	6.38	9.89	1,086	1,161
2201	42	2,706	.19	3.50	221	773
2202	2,622	3,338	1.69	2.44	1,551	1,368
2204	531	1,407	1.13	2.35	970	599
2205	3,009	2,871	6.19	4.31	486	666
2206	882	756	1.69	1.40	522	540
2207	1,668	2,014	2.63	3.63	634	556
2208	2,349	2,965	3.19	4.45	736	666
TOTALS	79,689	120,944	123.17	183.58	647	659

APPENDIX 4

LIST OF CID BY HUNDRED, SUB-CID'S, COURSES AND
WEEKLY STUDENT CONTACT HOURS FOR EACH COURSE

CID	Sub CID	DISCIPLINE	WSCH
0100		AGRICULTURE & NATURAL RESOURCES	
0200		ARCHITECTURE & ENVIRONMENTAL DESIGN	
	0230	Architectural Technology	
		1. Arch 020	259
		2. Arch 030	264
		3. Arch 040	530
		4. Arch 085	38
		5. Arch 090	180
0400		BIOLOGICAL SCIENCES	
	0401	Biology, General	
		1. Gio 100	2817
		2. Bio 110	160
		3. Bio 120	156
		4. Bio 121	84
	0402	Botany, General	
		1. Gio 190	216
	0407	Zoology, General	
		1. Bio 185	720
	0409	Pharmacology, General	
		1. Bio 200	268
	0410	Physiology, Human Anatomy	
		1. Bio 155	790
		2. Bio 170	1113
	0411	Microbiology	
		1. Bio 130	42
		2. Bio 150	609
	0420	Ecology	
		-1. Ecology 100	555
0500		BUSINESS & MANAGEMENT	
	0501	Business & Commerce, General	
		1. Gen Bus 100	1047
		2. Gen Bus 105	114
		3. Gen Bus 110	711
		4. Bus Sci 115	120
		5. Sec Sci 005	128

CID	Sub CID	DISCIPLINE	WSCH
	0502	Accounting	
		1. Acct 050	525
		2. Acct 101	1195
		3. Acct 102	355
		4. Gen Bus 111	207
	0506	Business Management & Administration	
		1. Mgmt 110	282
		2. Mgmt 111	165
		3. Mgmt 112	75
		4. Mgmt 114	48
	0509	Marketing & Purchasing	
		1. Retail 061	490
		2. Retail 110	150
		3. Retail 120	180
		4. Retail 220	24
	0514	Secretarial Studies, Shorthand	
		1. Sec Sci 021	20
		2. Sec Sci 030	50
		3. Sec Sci 120	405
		4. Sec Sci 125	155
		5. Bus Sci 020	15
		6. Bus Sci 140	156
	0517	General Business, Business Economics	
		1. Gen Bus 122	111
	0530	Retail Advertising	
		1. Retail 130	84
	0536	Retail Trades, Principles	
		1. Retail 210	111
	0538	General Clerical	
		1. Sec Sci 035	64
		2. Sec Sci 039	112
		3. Sec Sci 040	24
		4. Sec Sci 065	64
		5. Gen Bus 070	129
	0540	Typing & Related Occupations	
		1. Sec Sci 013	24
		2. Sec Sci 014	16
		3. Sec Sci 015	6
		4. Sec Sci 045	28
		5. Sec Sci 046	4
		6. Sec Sci 047	14
		7. Sec Sci 048	12
		8. Sec Sci 050	66
		9. Sec Sci 060	30
		10. Sec Sci 070	68
		11. Sec Sci 080	80
		12. Sec Sci 103	297

CID	Sub CID	DISCIPLINE	WSCH
	0540	(Continued)	
		13. Sec Sci 104	153
		14. Sec Sci 105	81
		15. Sec Sci 108	109.5
		16. Sec Sci 109	60
		17. Sec Sci 110	37.5
		18. Bus Sci 019	120
	0598	Work Experience Education	
		1. Bus 086	573
	0599	Commercial Law	
		1. Gen Bus 121	87
0600		COMMUNICATIONS	
	0601	Communications, General	
		1. Sp Ed 050	66
		2. Sp Ed 055	9
		3. Comm 803	40
	0602	Journalism	
		1. Journ 180	174
		2. Journ 280	27
		3. Journ 284 AD	20
		4. Journ 285 AD	130
		5. Journ 286 AD	9
	0603	Radio/Television Broadcasting	
		1. Hum 160	147
0700		COMPUTER & INFORMATION SCIENCE	
	0701	Computer & Information Science, General	
		1. Bus Sci 110	162
0800		EDUCATION	
	0835	Physical Education	
		1. P.E. 102	240
		2. P.E. 103	106
		3. P.E. 104	292
		4. P.E. 105	200
		5. P.E. 106	60
		6. P.E. 107	380
		7. P.E. 108	84
		8. P.E. 115	276
		9. P.E. 116	58
		10. P.E. 117	66
		11. P.E. 119	106
		12. P.E. 121	69
		13. P.E. 124	220
		14. P.E. 125	208
		15. P.E. 126	64

CID	Sub CID	DISCIPLINE	WSCH
	0835	(Continued)	
		16. P.E. 127	50
		17. P.E. 128	104
		18. P.E. 129	296
		19. P.E. 130	168
		20. P.E. 132	132
		21. P.E. 135	40
		22. P.E. 136	378
		23. P.E. 138	88
		24. P.E. 140	52
		25. P.E. 141	52
		26. P.E. 142	220
		27. P.E. 143	60
		28. P.E. 148	30
		29. P.E. 149	98
		30. P.E. 150	214
		31. P.E. 151	117
		32. P.E. 154	72
		33. P.E. 155 AC	97.5
		34. P.E. 157 AC	82.5
		35. P.E. 160 AC	176
		36. P.E. 163 AC	200
		37. P.E. 166 AB	270
		38. P.E. 167 AB	870
		39. P.E. 168 AB	280
		40. P.E. 169 AD	310
		41. P.E. 170	76
		42. P.E. 170 AD	260
		43. P.E. 177 AC	190
		44. P.E. 180	76
		45. P.E. 183	108
		46. P.E. 185	168
		47. P.E. 188	64
		48. P.E. 190	144
		49. P.E. 192	365
		50. P.E. 228	32
		51. P.E. & Recreation 086	67
		52. Dance 100	54
		53. Dance 101	24
		54. Dance 120	165
		55. Dance 125	75
		56. Dance 200	42
		57. Dance 240	21
	0837	Health Education	
		1. Hlth Ed 100	666
		2. Hlth Ed 110	110

CID	Sub CID	DISCIPLINE	WSCH
	0839	Industrial Arts	
		1. Ind Arts 100	162
		2. Ind Arts 120	126
		3. Ind Arts 130	120
		4. Ind Arts 140	20
	0851	Recreational Assistants	
		1. Rec 040	76
		2. Rec 044	136
		3. Rec 047	88
		4. Rec 050	32
		5. Rec 055	56
		6. Rec 141	162
		7. Rec 160	4
	0898	Work Experience Education	
		Hlth 086	1
0900		ENGINEERING & RELATED FIELDS	
	0942	Engineering Technology	
		1. Engr T 051	72
		2. Engr T 053	282
		3. Engr T 054	24
		4. Engr T 058	12
	0946	Automotive, Body & Fender	
		1. Bdy Fnd 051	368
		2. Bdy Fnd 052	112
		3. Bdy Fnd 053	144
		4. Bdy Fnd 054	32
	0948	Automotive Technology (Accessories)	
		1. Auto T 051	360
		2. Auto T 052	225
		3. Auto T 053	300
		4. Auto T 056	180
		5. Auto T 058	180
	0953	Drafting, Graphics	
		1. Draft 050	520
		2. Draft 052	90
		3. Draft 062	102
		4. Draft 072	12
		5. Draft 073	36
	0956	Manufacturing Technology	
		1. Mfg T 016	234
		2. Mfg T 026	72
		3. Mfg T 055	132
		4. Mfg T 056	24
	0998	Work Experience Education	
		1. Tech 086	254

CID	Sub CID	DISCIPLINE	WSCH
1000		FINE AND APPLIED ARTS	
	1001	Fine Arts, General, Art Theory	
		1. Hum 170	78
	1002	Art - Paint, Draw, Sculp (Art Lab)	
		1. Art 070	40
		2. Art 071	4
		3. Art 110	480
		4. Art 115	84
		5. Art 120	1014
		6. Art 121	144
		7. Art 125 AB	116
		8. Art 130 AB	144
		9. Art 141	138
		10. Art 144	342
		11. Art 168 AB	120
		12. Art 172	144
		13. Art 220	66
		14. Art 800	500
	1003	Art History	
		1. Art 100 AD	91
		2. Hum 110	333
	1004	Music Activity (Performance/Composition)	
		1. Mus 110 AD	215
		2. Mus 121 AD	355
		3. Mus 122 AD	84
		4. Mus 134 AD	96
		5. Mus 140 AD	24
		6. Mus 141	232
		7. Mus 142	74
		8. Mus 145	56
		9. Mus 146	26
		10. Mus 241	36
		11. Mus 242	24
		12. Mus 243 AB	12
		13. Mus 247 AB	24
		14. Mus 250 AD	28
	1005	Music Theory	
		1. Mus 100 AD	35
		2. Mus 105	80
		3. Mus 115	312
		4. Mus 170	86
		5. Mus 200	40
		6. Mus 205	36
		7. Mus 290 AD	24
	1006	Music History & Appreciation	
		1. Hum 120	204
		2. Hum 122	672

CID	Sub CID	DISCIPLINE	WSCH
	1007	Drama	
		1. Hum 130	132
		2. Hum 150	240
		3. Theatr 125	72
		4. Theatr 140 AD	52
		5. Theatr 170 AD	96
		6. Theatr 180	116
		7. Theatr 185	180
		8. Theatr 188	76
		9. Theatr 215 AD	114
		10. Theatr 285	80
	1009	Applied Design, App. Art, Comm. Design	
		1. Art 050	160
		2. Art 146	180
	1011	Photography	
		1. Art 051	76
		2. Art 150	456
		3. Art 151	120
	1030	Printing Technology, Graphic Arts, Prtg.	
		1. Graphic 052	264
		2. Graphic 053	120
		3. Graphic 055	72
		4. Graphic 056	55
		5. Graphic 061	88
		6. Graphic 064	42
		7. Graphic 075	60
		8. Graphic 080	78
	1098	Work Experience Education	
		1. Arts 086	17
1100		FOREIGN LANGUAGES	
	1102	French	
		1. French 180	228
		2. French 185	56
		3. French 280	96
	1103	German	
		1. Germ 180	164
		2. Germ 185	52
		3. Germ 280	60
	1104	Italian	
		1. Ital 180	152
	1105	Spanish	
		1. Span 180	448
		2. Span 185	180
		3. Span 280	76

CID	Sub CID	DISCIPLINE	WSCH
1200		HEALTH SERVICES	
	1203	Nursing, R.N.	
		1. Nursg 030	1116
		2. Nursg 071	902
	1234	Mental Health Technition	
		1. Hu Svc 010	376
		2. Hu Svc 020	551
		3. Hu Svc 050	128
		4. Hu Svc 055	742
	1238	Nursing, Practical, L.V.N.	
		1. Nursg 021	2280
	1239	Psychiatric Aide & Technition	
		1. Nursg 070	990
	1298	Work Experience Education	
		1. Health 087	4
		2. Health 088	6
		3. Health 089	48
1500		LETTERS	
	1501	English, General	
		1. Eng 010	3073
		2. Eng 040 AC	51
		3. Eng 050	765
		4. Eng 100	1500
		5. Eng 110	291
		6. Eng 115	45
		7. Eng B	63
		8. Sp Ed 010 AB	48
		9. Sp Ed 040 AB	231
	1502	Literature	
		1. Lit 070	180
		2. Lit 075	111
		3. Lit 150	126
		4. Lit 155	51
		5. Lit 280	54
	1506	Speech, Debate, Forensics	
		1. Speech 052	219
		2. Speech 100	1431
		3. Speech 105	36
		4. Speech 200	60
		5. Speech 210	455
		6. Speech 215	45
	1507	Creative Writing	
		1. Eng 280	72
	1509	Philosophy	
		1. Phil 100	234
		2. Phil 105	225

CID	Sub CID	DISCIPLINE	WSCH
	1509	(Continued)	
		3. Phil 115	219
		4. Phil 120	78
	1510	Philosophy, Religious Studies	
		1. Phil 110	204
		2. Phil 111	135
	1530	Reading, Vocabulary	
		1. Learn 015	378
		2. Learn 020	392
		3. Learn 025 AB	78
		4. Learn 040	341
		5. In Aid 020	24
	1598	Work Experience Education	
		1. Comm 086	49
	1599	Technical Writing	
		1. Learn 055 AB	18
		2. In Aid 010	48
1600		LIBRARY SCIENCE	
	1601	Library Science Tech	
		1. Libr 020	80
	1699	Library Science	
		1. Libr 110	22
1700		MATHEMATICS	
	1701	Mathematics, General	
		1. Math 001	300
		2. Math 010	750
		3. Math 020	152
		4. Math 100	201
		5. Math 110	1235
		6. Math 120	420
		7. Math 130	80
		8. Math 150	108
		9. Math 170	445
		10. Math 171	84
		11. Math 180	495
		12. Math 181	30
		13. Math 185	130
		14. Math 186	12
		15. Math 280	120
	1702	Statistics	
		1. Math 160	102
	1703	Applied Math, Technical Math	
		1. Math 005	896
		2. Math 040	232

CID	Sub CID	DISCIPLINE	WSCH
1900		PHYSICAL SCIENCES	
	1901	Physical Sciences, General	
		1. Phy Sci 100	451
	1902	Physics	
		1. Phys 120	300
		2. Phys 185	255
		3. Phys 280	144
	1905	Chemistry	
		1. Chem 100	1086
		2. Chem 130	595
		3. Chem 180	960
		4. Chem 185	320
	1907	Organic Chemistry	
		1. Chem 220	276
	1914	Geology	
		1. Geo 100	789
		2. Geo 110	98
		3. Geo 185	175
	1998	Work Experience Education	
		1. Math Sci 086	19
2000		PSYCHOLOGY	
	2001	Psychology, General	
		1. Psych 055	195
		2. Psych 060	99
		3. Psych 100	3353
		4. Psych 110	297
		5. Psych 150	222
		6. Psych 155	1284
		7. Psych 160	276
		8. Psych 165	189
		9. Psych 180	108
		10. Psych 185	200
		11. Sp Ed 070	20
		12. Sp Ed 080 AB	150
2100		PUBLIC AFFAIRS & SERVICES	
	2105	Police Science, Law Enforcement, Criminology, Corrections	
		1. Adm Jus 023	147
		2. Adm Jus 025	129
		3. Adm Jus 026	126
		4. Adm Jus 031	120
		5. Adm Jus 034	177
		6. Adm Jus 035	66
		7. Adm Jus 036 AB	96
		8. Adm Jus 040	78

CID	Sub CID	DISCIPLINE	WSCH
	2105	(Continued)	
		9. Adm Jus 076	117
		10. Adm Jus 081	3
		11. Adm Jus 082	6
		12. Adm Jus 120	519
		13. Adm Jus 121	474
		14. Adm Jus 122	396
		15. Adm Jus 124	183
	2132	Public Affairs, Administration of Justice	
		1. Adm Jus 042	78
2200		SOCIAL SCIENCES	
	2201	Social Science, General	
		1. Soc Sci 140	42
	2202	Anthropology	
		1. Anthro 100	2076
		2. Anthro 185	354
	2204	Economics	
		1. Econ 110	219
		2. Econ 120	75
		3. Econ 180	192
		4. Econ 285	39
	2205	History	
		1. Hist 070	87
		2. Hist 125	108
		3. Hist 170	1347
		4. Hist 175	1025
		5. Hist 180	273
		6. Hist 185	105
	2206	Geography	
		1. Geog 150	132
		2. Geog 180	522
		3. Geog 185	201
	2207	Political Science	
		1. Poly Sci 110	195
		2. Poly Sci 180	1260
		3. Poly Sci 185	192
	2208	Sociology	
		1. Socio 100	1407
		2. Socio 110	543
		3. Socio 150	156
		4. Soc Sci 133	180
	2298	Work Experience Education	
		1. Soc Sci 086	445

CID	Sub CID	DISCIPLINE	WSCH
3000		COMMERCIAL SERVICES	
	3007	Cosmetology	
		1. Cosmet 050	260
		2. Cosmet 051	270
		3. Cosmet 053	1820
		4. Cosmet 054	1855
		5. Cosmet 060	460
		6. Cosmet 061	80
		7. Cosmet 062	80
4900		INTERDISCIPLINARY STUDIES	
	4902	Natural Science	
		1. Sci Tech 051	156
6000		UNCLASSIFIED	
		1. Sp Ed 081 AB	30

APPENDIX 5

GWC'S % WSCH, LOAD AND COST INDEX AS COMPARED TO THE STATE FIGURES BY DIVISION

CID	GWC % WSCH	STATE % WSCH	GWC LOAD	STATE LOAD	GWC COST INDEX	STATE COST INDEX
			BUSINESS DIVISION			
0501	2.17	1.566	995	582	60	88
0502	2.31	1.605	546	561	110	92
0506	.59	.357	523	540	115	95
0509	.86	.120	529	487	114	106
0514	.82	1.443	632	469	95	110
0517*	.12		616		98	
0530*	.09		458		131	
0536	.11	.059	300	467	200	110
0538	.41	.563	237	491	254	105
0540	1.26	1.231	554	666	108	77
0598	.58	.338	1289	542	47	95
0599	.09	.174	474	546	127	94
0701	.16	.168	853	546	70	94
			COMMUNICATIONS DIVISION			
0601*	.11		68		884	
0602	.36	.458	484	364	124	141
0603	.15	.204	789	446	76	115
1102	.39	.604	388	402	155	128
1103	.28	.395	280	344	215	150
1104	.15	.056	624	253	96	204
1105	.72	1.249	439	494	137	104
1501	6.10	6.237	510	412	118	125
1502	.54	.770	415	385	145	134
1506	2.27	1.616	398	398	151	129
1507	.07	.089	395	336	152	153
1530	.84	1.010	488	469	123	110
1599	.07	.047	418	435	144	118

*These CID catagories were not included in the Presidents' Study.

CID	GWC % WSCH	STATE % WSCH	GWC LOAD	STATE LOAD	GWC COST INDEX	STATE COST INDEX
			FINE AND APPLIED ARTS DIVISION			
1001	.08	.114	411	551	146	93
1002	3.48	2.999	665	525	92	98
1003	.43	.725	1390	672	43	77
1004	1.30	2.064	457	493	132	104
1005	.61	.545	588	536	102	96
1006	.95	.582	2511	720	24	72
1007	1.17	1.149	317	423	190	122
1009	.36	.584	1000	511	60	101
1011	.66	.755	660	499	91	103
3007*	4.79		1038		58	
			HEALTH SCIENCES DIVISION			
1203	2.00	1.678	273	270	220	191
1234	1.78	.002	225	256	267	201
1238	2.26	1.228	422	383	142	134
1239	.98	.345	330	568	182	91
			MATHEMATICS AND SCIENCES DIVISION			
0401	3.22	2.648	861	622	70	83
0402	.21	.274	600	536	100	96
0407	.72	.631	567	550	106	94
0409*	.27		536		112	
0410	1.90	1.046	1347	589	45	87
0411	.65	.257	529	478	114	108
0420	.57	.337	1398	650	43	79
1701	4.55	4.993	572	516	105	100
1702	.11	.168	793	513	76	100
1703	1.14	.228	1053	489	57	105
1901	.46	.332	1132	553	53	93
1902	.70	1.131	742	437	81	118
1905	2.96	3.461	796	566	76	91
1907*	.27		552		109	
1914	1.06	.756	1242	509	48	101
			PHYSICAL AND RECREATIONAL EDUCATION DIVISION			
0835	8.84	8.905	704	661	85	78
0837	.77	1.425	3250	709	18	73
0851	.55	.098	695	573	86	90

CID	GWC % WSCH	STATE % WSCH	GWC LOAD	STATE LOAD	GWC COST INDEX	STATE COST INDEX
			SOCIAL SCIENCE DIVISION			
1509	.76	1.213	586	525	103	98
1510*	.35		632		95	
2001	6.88	3.537	1086	620	55	83
2105	2.74	1.781	544	590	110	87
2132*	.08		426		141	
2201	.04	.466	221	522	273	99
2202	2.60	1.096	1551	607	39	85
2204	.53	.907	470	555	128	93
2205	2.99	3.963	486	573	124	90
2206	.88	.645	522	543	115	95
2207	1.66	1.945	634	580	95	89
2208	2.33	2.022	736	591	82	87
2298*	.45		402		150	
			TECHNOLOGY DIVISION			
0230	1.26	.134	780	516	77	100
0839	.43	.054	651	443	92	116
0942*	.40		503		119	
0946	.65	.216	820	541	73	95
0948	1.24	.112	541	425	111	121
0953	.75	.662	576	431	104	119
0956	.46	.946	770	404	78	127
1030	.79	.200	501	404	120	127
			SPECIAL EDUCATION			
6000	.04	.174	277	738	217	70
			INTERDISCIPLINARY STUDIES			
4902	.16	.093	810	561	74	92
			LIBRARY SCIENCE			
1630	.10	.061	400	487	150	106
1699*	.02		533		164	

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